AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An image data filtering method for reducing blocking effect and noise when a frame of the image data is composed of data blocks of predetermined size, the method comprising:

generating a binary edge map representing whether each pixel is filtered, the generated binary edge map being a two-dimensional array; and ~~flag information on the data block from the bitstream image data;~~

performing a filtering by applying a predetermined filter window to the generated binary edge map;

wherein the performing the filtering comprises not performing filtering if the central pixel of the filter window is an edge.

~~generating filtering information on the data block from the flag information;~~

~~filtering the data block passed through inverse quantization and inverse discrete cosine transform according to the generated filtering information.~~

2. (currently amended): ~~The method of claim 1, the filtering information generating step comprising generating flag information on the data block from predetermined pixels of the upper and left boundary regions of the data block when the flag information indicates intra mode.~~

The method of claim 1, wherein the binary edge map is generated using an absolute value of a difference between a gradient-operated value of one pixel and a value of the adjacent pixel, and the Q value used as a dividend for quantizing a block in which each pixel is included.

3. (currently amended): ~~The method of claim 1, the filtering information generating step comprising generating flag information on the data block using a motion vector and a residual signal of the data block when the flag information indicates inter mode.~~The method of claim 2, wherein the generating the binary edge map further comprises a vertical edge detection step (s1) and a horizontal edge detection step (s2); and

the step s1 further comprises:

(s11) calculating an absolute value A1 of a difference between the gradient-operated values on a pixel P1, on which a determination has been made as to whether it is an edge pixel, and a pixel to the right of the pixel P1;

(s12) calculating an absolute value A2 of a difference between the gradient-operated values on the pixel P1 and a pixel to the left of the pixel P1;

(s13) comparing the absolute values A1 and A2 with a predetermined threshold value Th and determining whether the pixel P1 is a vertical edge pixel according to a logical value resulting from the comparing the absolute values A1 and A2; and

(s14) performing the above sub-steps s11 through s13 on all pixels of the block; and

the step s2 further comprises:

(s21) calculating an absolute value A'1 of the difference between the gradient-

operated values on a pixel P1, on which a determination has been made as to whether it is an edge pixel of the block, and a pixel below the pixel P1;

(s22) calculating an absolute value A'2 of a difference between the gradient-operated values on the pixel P1 and an upper pixel of the pixel P1;

(s23) comparing the absolute values A'1 and A'2 with a predetermined threshold value Th and determining whether the pixel P1 is a horizontal edge pixel according to a logical value resulting from the comparing the absolute values A'1 and A'2; and

(s24) performing the above sub-steps s21 through s23 on all pixels of the block.

4. (currently amended): ~~An image data filtering apparatus for reducing blocking effect and noise when a frame of the image data is composed of data blocks of predetermined size, the apparatus comprising:~~

~~checking unit to check flag information on the data block from the bitstream image data;~~

~~generating unit to generate filtering information on the data block from the flag information;~~

~~adaptive filtering unit to filter the data block passed through inverse quantization and inverse discrete cosine transform according to the generated filtering information~~The method of claim 3, wherein:

in the sub-step (a13), the pixel P1 is determined as an edge pixel if a first logical formula of ((A1>Th) && (A2>Th)) || (A1>5*Th/2) || (A2>5*Th/2) is true, and the pixel P1 is determined as a non-edge pixel if the first logical formula is false; and

in the sub-step (a23), the pixel P1 is determined as an edge pixel if a second logical formula of ((A'1>Th) && (A'2>Th)) || (A'1>5*Th/2) || (A'2>5*Th/2) is true, and the pixel P1 is determined as a non-edge pixel if the second logical formula is false,

wherein "&&" represents an AND operation, and "||" represents an OR operation.

5. (currently amended): ~~The apparatus of claim 4, wherein the filtering information generating unit comprises an intra-filtering information generator which is used when the data block is in intra mode and an inter-filtering information generator which is used when the data block is in inter mode.~~The method of claim 1, wherein:

the performing the filtering is performed if the central pixel is a non-edge pixel; and

an average filtering is performed if the filter window has no edge pixel; and

a weighted filtering is performed if the filter window has an edge pixel.

6. (currently amended): ~~The apparatus of claim 5, wherein the intra-filtering information generator generates filtering information on the data block from predetermined pixels of the upper and left boundary regions of the data~~

An image data filtering apparatus for reducing blocking effect and noise when a frame of the image data is composed of data blocks of predetermined size, the apparatus comprising:

a generating unit which generates a binary edge map representing whether each pixel is filtered, the generated binary edge map being a two-dimensional array; and

an adaptive filtering unit which performs a filtering by applying a predetermined filter window to the generated binary edge map;

wherein the adaptive filtering unit does not perform the filtering if the central pixel of the filter window is an edge.

7. (canceled).